

$$\text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{OH} \longrightarrow \text{BocHN}-\text{CH}_2-\text{CH}_2-\text{OH} \longrightarrow \text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{Br}$$

2

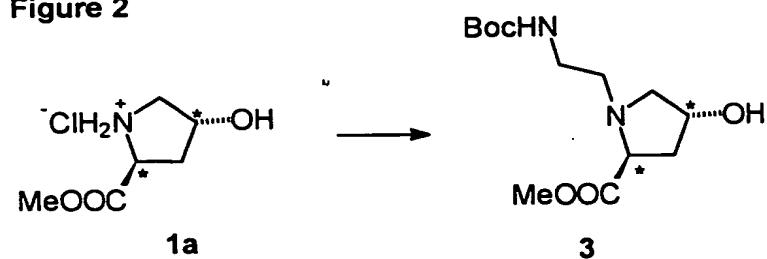


Figure 6

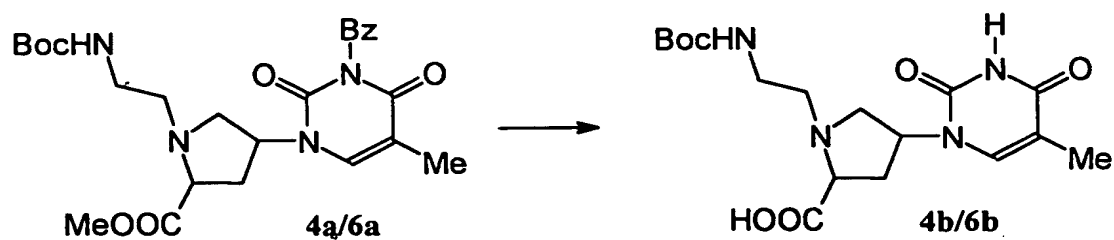


FIG. 6

Figure 7 Solid Phase synthesis of Oligomers

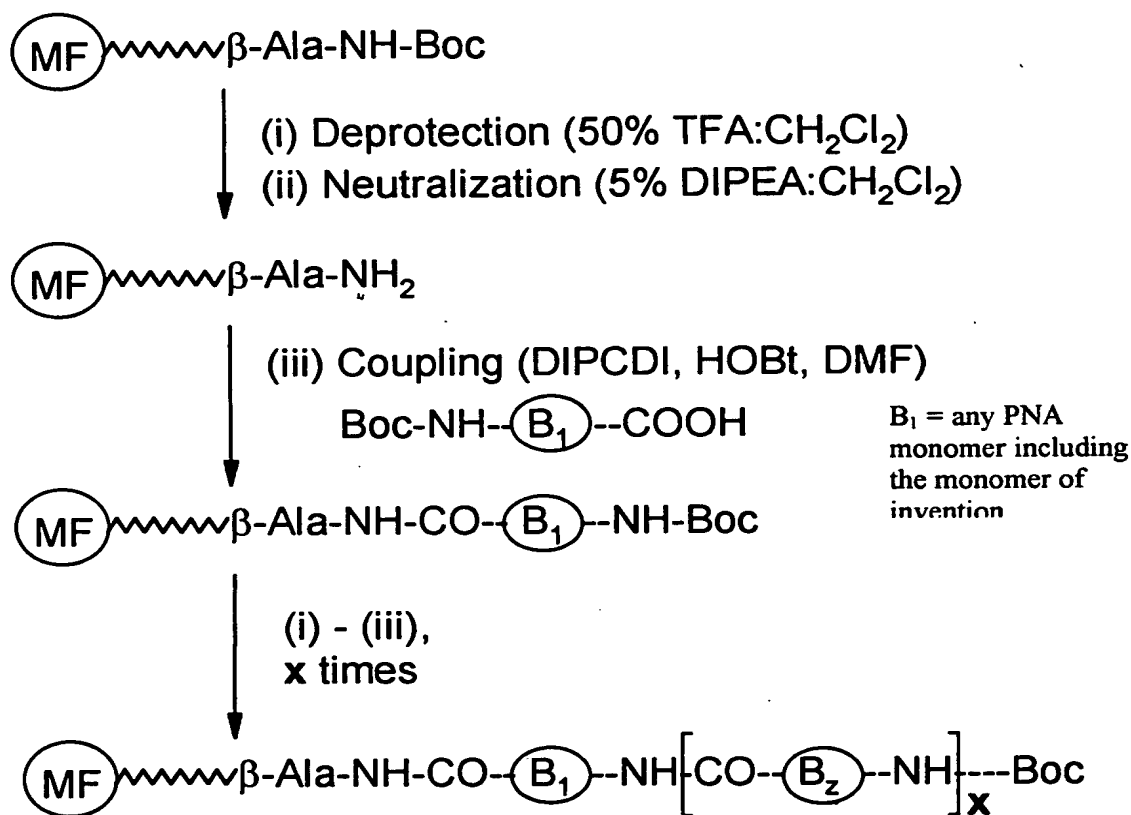


FIG. 7

Figure 8. Oligomer sequences comprising novel monomers of the invention

Oligomer sequences

- 7 H- T T T T T T T t $-(\beta\text{-Ala})\text{-OH}$
 8 H- T T T t T T T t $-(\beta\text{-Ala})\text{-OH}$
 9 H- T t T t T t T t $-(\beta\text{-Ala})\text{-OH}$
 10 H- t t t t t t t t $-(\beta\text{-Ala})\text{-OH}$
 11 H- T T T T T T T T $-(\beta\text{-Ala})\text{-OH}$
 12 H- t A T A T T A T T A T T $-(\beta\text{-Ala})\text{-OH}$
 13 H- T A T A T T A T T A T T $-(\beta\text{-Ala})\text{-OH}$

A/T = *aeg*PNA-A/T, t = *aep*PNA -T

DNA sequences

- 14 5'- G Ć A A A A A A A C G -3'
 15 5'- G C A A A T A A A C G -3'
 16 5'- A A T A A T A A T A T A -3'

FIG. 8

Figure 9a

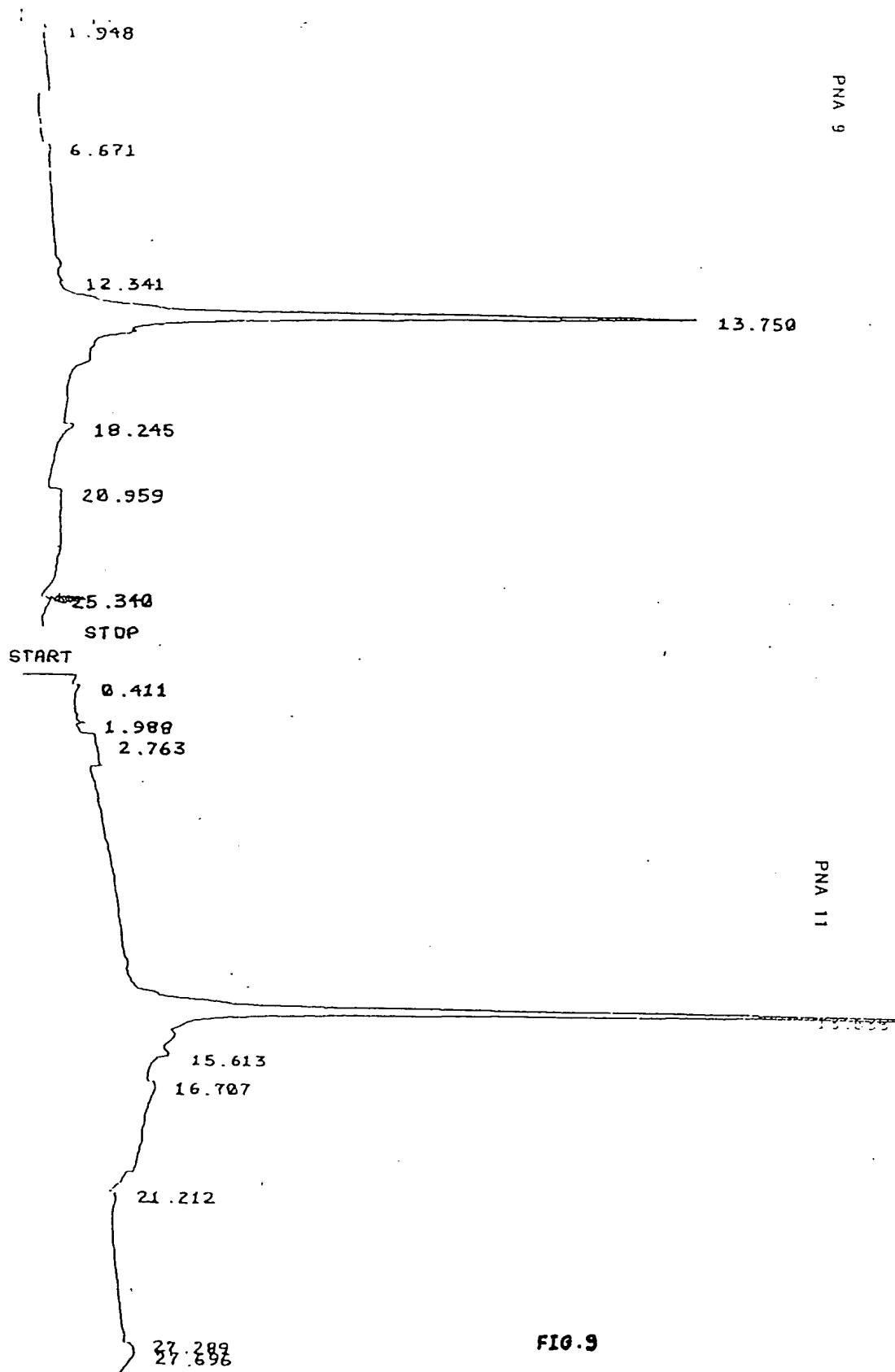
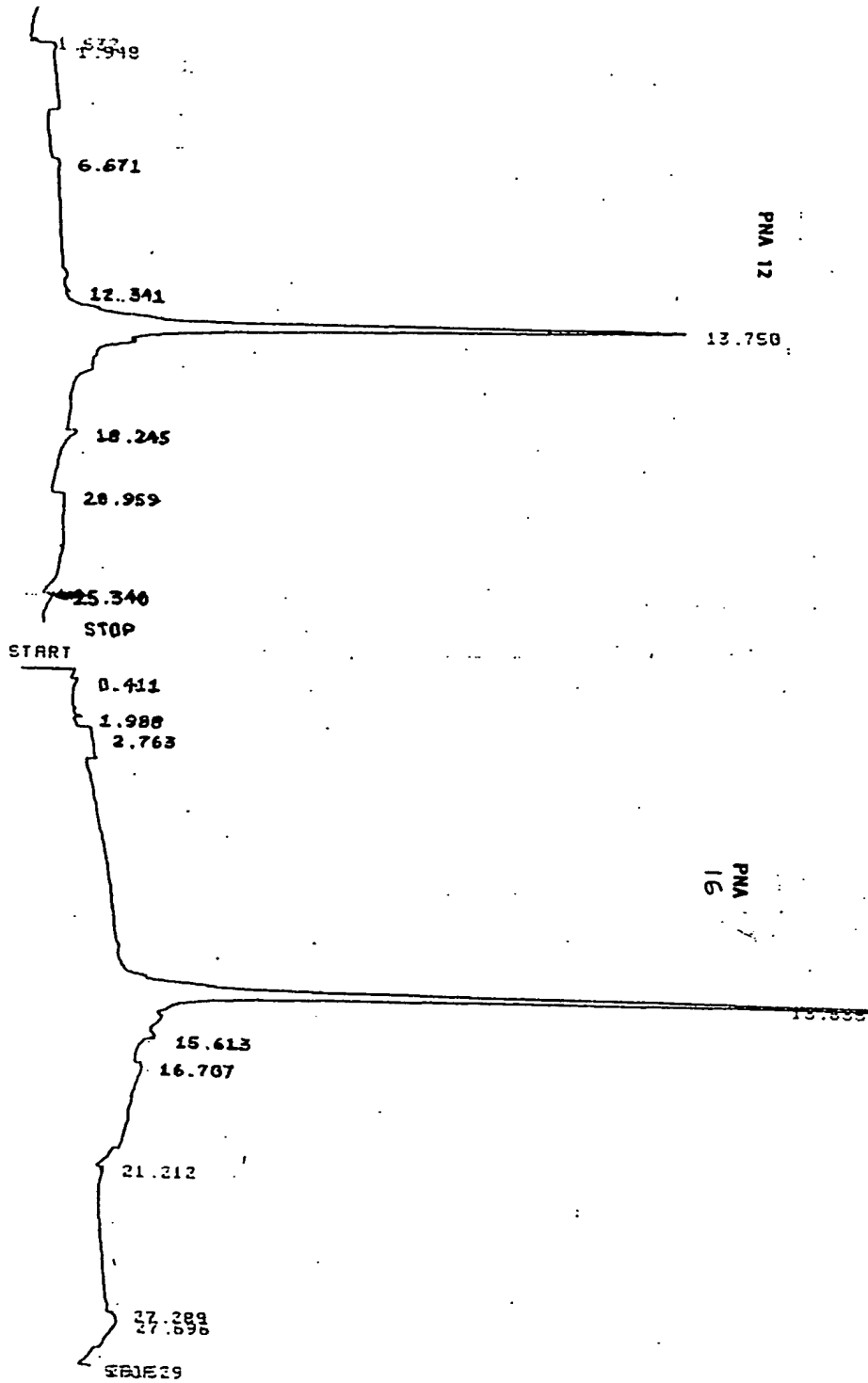


FIG. 9

0966144.092000

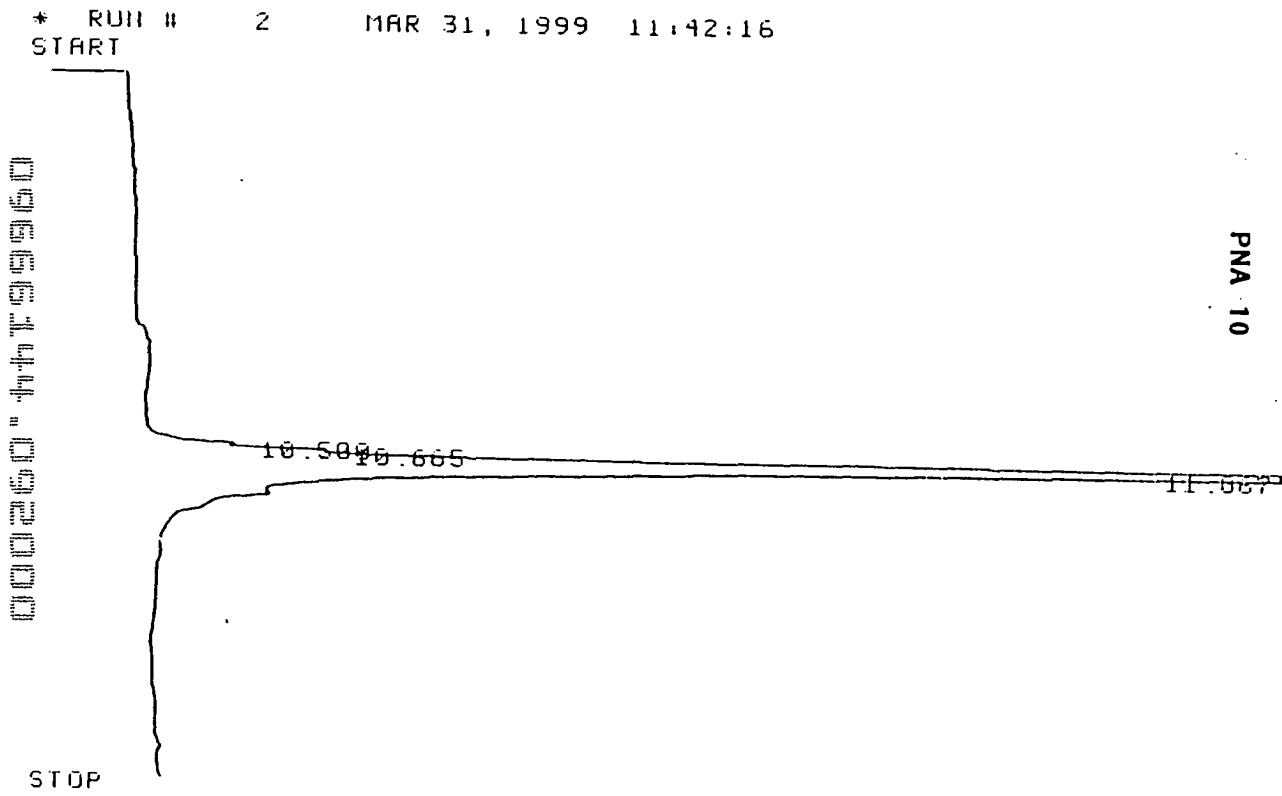
Figure 9a



096644.092000

FIG. 9

Figure 9b



Closing signal file M:SIGNAL .BNC

FIG.9

* RUN # 2 MAR 31, 1999 11:42:16
START

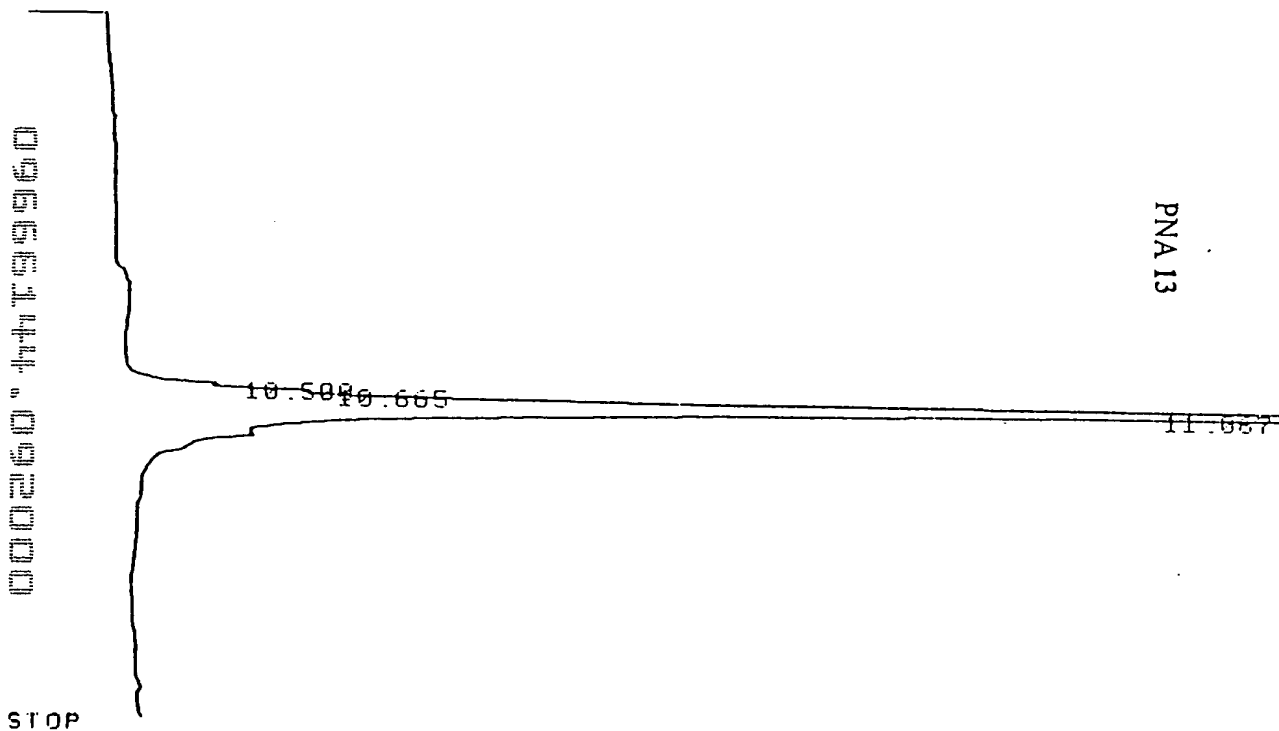


FIG.9

Closing signal file H:SIGNAL .BNC

FIGURE 10 A. MALDI-TOF mass spectrum of PNA 7

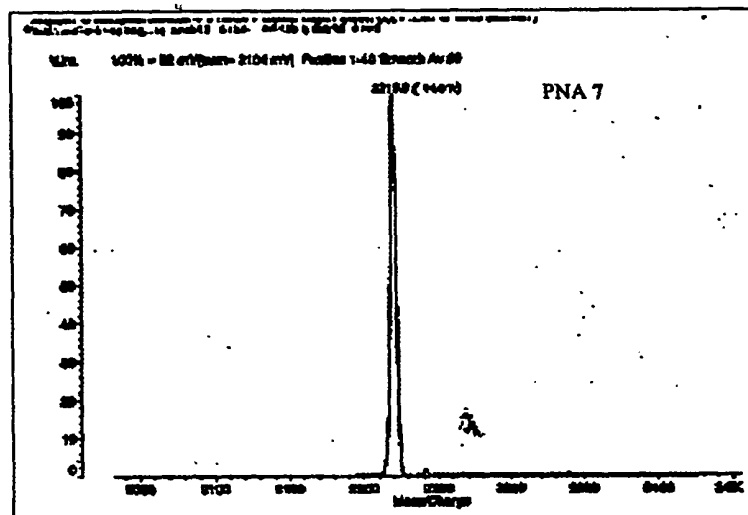


FIG.10

24



FIG. 10

FIGURE 10 A. MALDI-TOF mass spectrum of PNA 10

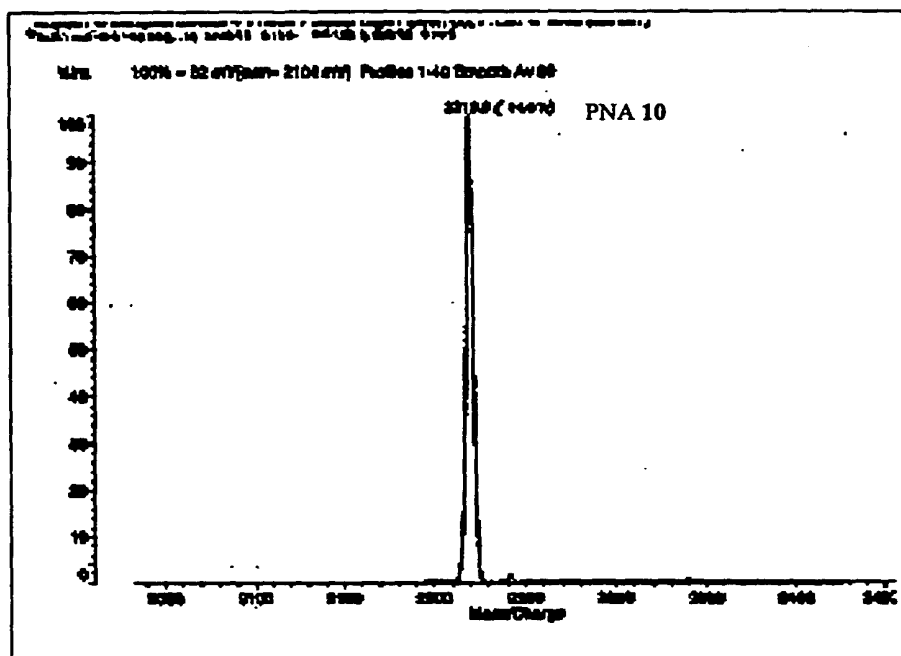


FIG.10

0966144-092000

Figure 10B. MALDI-TOF mass spectrum of PNA 11, 12

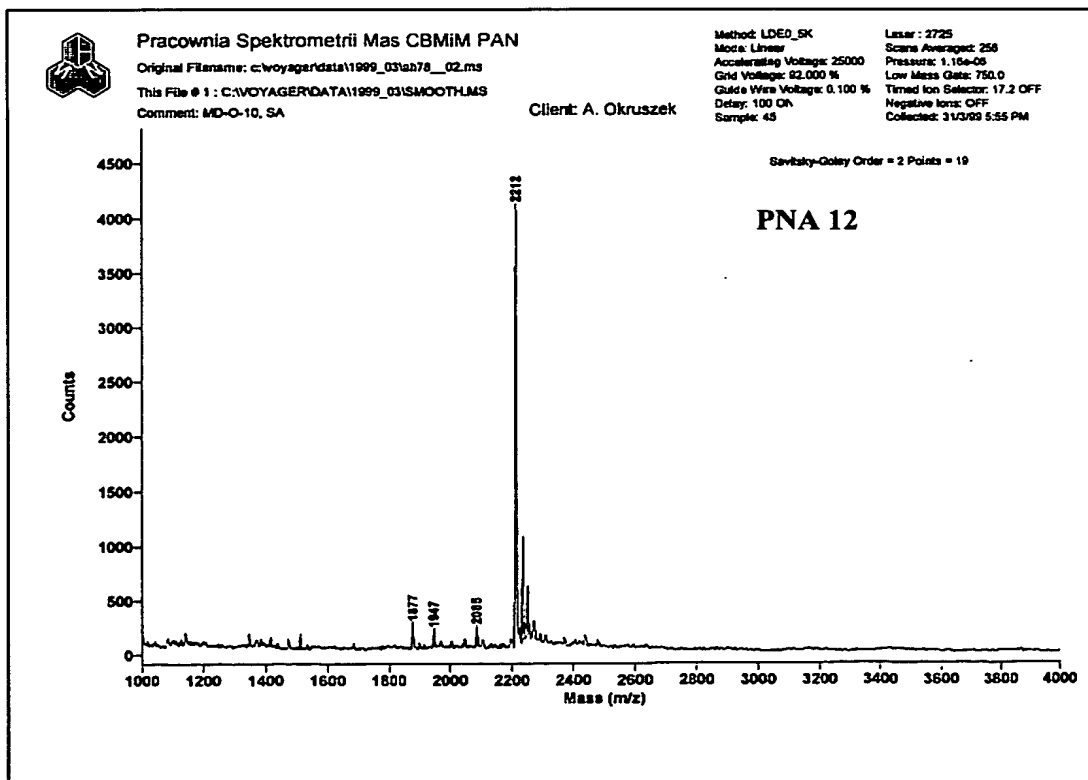
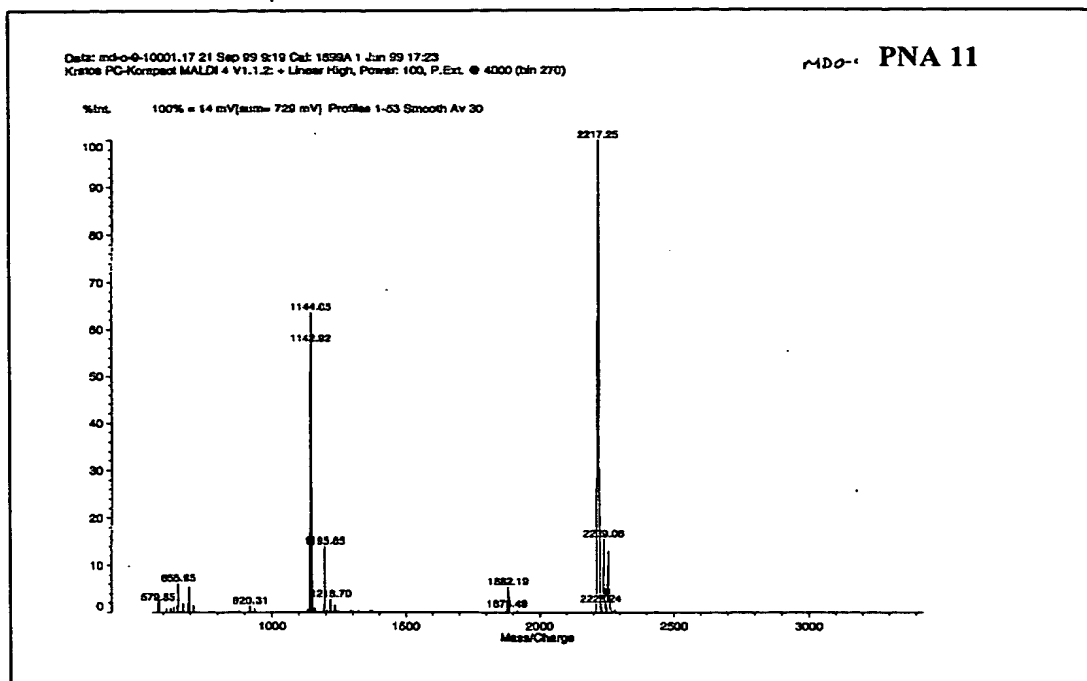
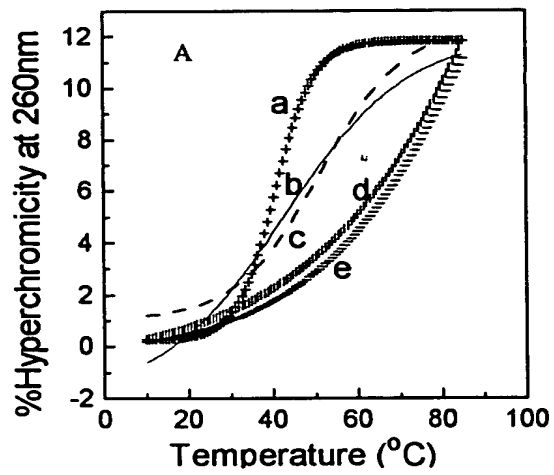


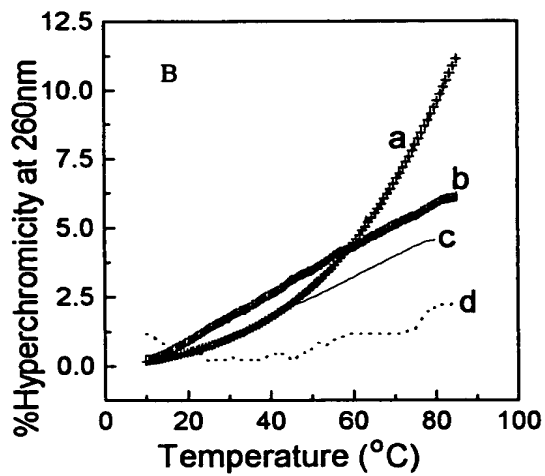
FIG. 10

Figure 11

UV melting profiles



A: for the 2S modification a: 14:11, b: 14:7, c: 14:8, d: 14:9, e: 14:10.

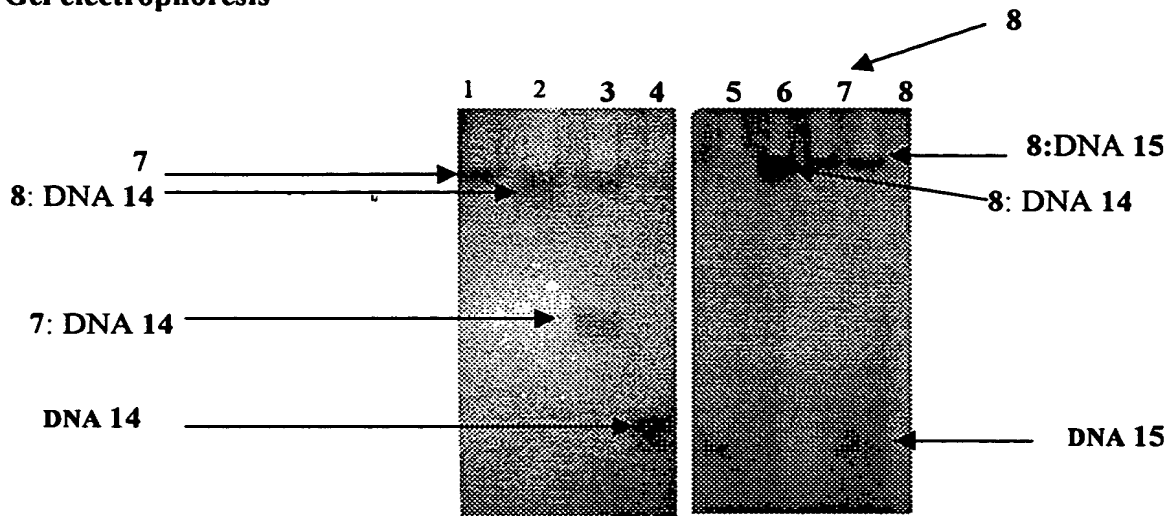


B: a: 14:10, b: 15:10 and of single strands c: 15, d: 10.

FIG. 11

FIGURE 12

Gel electrophoresis



15% Polyacrylamide Gel Electrophoresis (acrylamide:bis-acrylamide, 29:1) of *aep*PNA:DNA complexes. Bands were visualized by UV-shadowing, i.e., by illuminating the gel placed on a fluorescent thin-layer silica gel chromatographic plate, F₂₅₄, 20cm x 20cm using UV light. Lane 1: 7; Lane 2: (8: DNA 14); Lane 3: (7: DNA 14); Lane 4: DNA 14; Lane 5: DNA 15; Lane 6: (8: DNA 14); Lane 7: 8; Lane 8: (8: DNA 15).

Oligomer sequences

7 H- T T T T T T T t -(β-Ala)-O

8 H- T T T t T T T t -(β-Ala)-O

T = *aeg*PNA-T, t = *aep*PNA -T

DNA sequences

14 5'- G C A A A A A A A C G -3'

15 5'- G C A A A T A A A C G -3'

FIG. 12